

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

JAR-3691-661

Application Number

10/797,580

Filed

March 11, 2004

First Named Inventor

DIETRICH

Art Unit

1794

Examiner

Piziali, Andrew T.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ Applicant/Inventor

☐ Assignee of record of the entire interest. See 37 C.F.R. § 3.71. Statement under 37 C.F.R. § 3.73(b) is enclosed. (Form PTO/SB/96)

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Registration number if acting under 37 C.F.R. § 1.34 _____

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June 8, 2010

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.*

☒ *Total of 1 form/s are submitted.

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THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

DIETRICH et al.

Atty. Ref.: 3691-661; Confirmation No. 4818

Appl. No. 10/797,580

TC/A.U. 1794

Filed: March 11, 2004

Examiner: Piziali, Andrew T.

For: COATED ARTICLE WITH LOW-E COATING INCLUDING IR REFLECTING
LAYER(S) AND CORRESPONDING METHOD

* * * * *

June 8, 2010

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Pursuant to the OG Notice of July 12, 2005, Applicant hereby requests a pre-appeal brief review of this case for at least the following reasons.

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Glaser (U.S. Patent No. 5,837,361) in view of Depauw (U.S. Patent No. 5,153,054) and Hartig (U.S. Patent No. 5,557,462). This rejection should be reversed for at least the following reasons.

Claim 1 is directed to a heat treated coated article comprising a coating supported by a glass substrate, the coating comprising, *inter alia* "a second layer comprising zinc oxide located over at least the first IR reflecting layer and the first dielectric layer; a second IR reflecting layer comprising silver located over and contacting the second layer comprising zinc oxide, the second IR reflecting layer comprising silver having a thickness greater than the first IR reflecting layer comprising silver; a layer consisting essentially of an oxide of NiCr located over and contacting

the second IR reflecting layer; a third layer comprising zinc oxide located over and contacting the layer consisting essentially of the oxide of NiCr, the third layer comprising zinc oxide being 40-150 Å thick, the third layer comprising zinc oxide being thicker than the second layer comprising zinc oxide, and the layer consisting essentially of the oxide of NiCr being 20-45 Å thick." The cited references do not disclose or suggest these features, alone or in combination. Thus, the cited references, alone and in combination, do not render obvious claim 1.

Glaser does not teach or suggest heat treating. Depauw, which is introduced to make up for this fundamental deficiency of Glaser, discloses that the sacrificial metal oxide layer located between the IR reflecting layer and the layer comprising zinc oxide must be *thicker* if heat treatment is to be undergone (col. 8, lines 23-28 of Depauw). In particular, Depauw states that the metal oxide layer ought to be 5-12 nm -- which is thicker than the range claimed in claim 1. Although Depauw does mention a broader overall thickness range of from 2-12 nm, it explains in no uncertain terms that the low-end of this range is not appropriate for heat treated articles. Thus, if one of ordinary skill in the art at the time of the invention read the entirety of Depauw, it would be recognized that the upper-end of the thickness range would have to be used for heat treated coated articles. Therefore, the claimed thickness of the layer consisting essentially of the oxide of NiCr, located above the IR reflecting layer comprising silver, would not be met by Glaser when modified by Depauw. In fact, Depauw's clear teaching regarding the need to increase the thickness of a layer when the article is to be heat treated teaches away from claim 1.

The totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of non-obviousness. *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986) 2145 (X)(3). Because Depauw discloses that if a layer stack comprising ZnO/Ag/metal layer/ZnO must have a thicker metal layer over the layer comprising silver if the

coating undergoes heat treatment, this teaching must be considered when modifying Glaser's ZnO/Ag/NiCr layer stack. Thus, if that stack were modified based on the teaching of Depauw to include an additional layer comprising zinc oxide over the metal layer, *and* to be heat treated, then Glaser would also have to be modified to have a thicker metal layer above the layer comprising silver. If the coating of Glaser, including the NiCr layer (metal layer) disclosed by Glaser as above the IR reflecting layer, were modified based on Depauw, the NiCr layer (metal layer) would have to be between 5 and 12 nm thick (50 to 120 Å). Claim 1, on the other hand, requires that the layer consisting essentially of the oxide of NiCr be 20-45 Å thick. Accordingly, modified Glaser cannot meet the features of claim 1. Therefore, the alleged combination does not render obvious claim 1.

Moreover, claim 1 recites, *inter alia*, "a third layer comprising zinc oxide located over and contacting the layer consisting essentially of the oxide of NiCr, the third layer comprising zinc oxide being 40-150 Å thick, the third layer comprising zinc oxide being thicker than the second layer comprising zinc oxide." This means that the third layer comprising zinc oxide located over and contacting the layer consisting essentially of the oxide of NiCr is thicker than the second layer comprising zinc oxide, over which the second IR reflecting layer comprising silver is located and contacting. This amendment is supported by the example thicknesses in the instant specification. For example, in paragraphs [0034] and [0042] it can be seen that the third layer comprising zinc oxide (the one located over and contacting the layer consisting essentially of the oxide of NiCr) is *thicker* than the second layer comprising zinc oxide, over which the second IR reflecting layer comprising silver is located and contacting. The cited art does not teach or suggest this feature. In fact, the cited prior art teaches directly away from this structure.

Page 8 of Final Office Action provides a wholly unsupported, hindsight “rationale” for this specifically claimed thickness modification. There is nothing in the single sentence bridging cols. 5 and 6 of Depauw that even remotely relates to varying the relative thicknesses of multiple zinc oxide layers. At best, col. 6, lines 17-25 indicate that it is the presence (note: not the relative thicknesses) of the zinc oxide that helps in terms of preventing oxygen from reaching the underling layers. But even this statement does not correspond to a teaching or suggestion regarding the desirability of altering thicknesses -- much less to meet the thicknesses called for in claim 1. The Final Office Action lacks the underlying facts needed to support the ultimate legal conclusion of obviousness.

Furthermore, although Depauw discloses layers comprising zinc oxide below and contacting an IR reflecting layer comprising silver, and above a metal layer that is over and contacting the IR reflecting layer comprising silver, Depauw cautions against the use of both layers of zinc oxide (col. 7, lines 21-50). Depauw is replete with warnings about using too much zinc oxide in a layer system, and states that its overall presence should be minimized. In fact, Depauw explicitly states that if zinc oxide is used below the IR reflecting layer *and* above the (sacrificial) metal layer, it is important that the layers’ thicknesses are the same. These are further reasons why one skilled in the art at the time of the invention would not have modified Glaser based on Depauw’s teachings to obtain above-specified relative thicknesses of claim 1.

Applicant simply is at a loss to understand how and why one skilled in the art would have arrived at the invention of claim 1 in the context of prior art that lacks any facts to support the allegedly “obvious” modification to Glaser, particularly when the references being relied on identify a thickness range outside the claimed value for heat treated embodiments and also expressly teach that there should be no differences in layer thicknesses.

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Applicant also respectfully submits that the argument concerning the inherency of the specific emissivity, visible transmission, and sheet resistance characteristics called for in claim 1 is misplaced. For instance, the Final Office Action has not presented any scientific explanation or reasoning to account for the different values that actually are specified in the cited art. In that regard, the very examples in Glaser and Depauw preclude a reliance on inherency because they establish that the claimed values need not necessarily result. The visible transmission in Glaser is below that which is called for, and some of the emissivity values are within the claimed range whereas others are outside of it. Although Depauw's examples have high visible transmission, the emissivity values in its examples are double that called for in the claims. Similar observations apply with respect to Hartig. There is no attempt to explain how or why these conflicting teachings are necessarily resolved in the alleged three-way combination such that the specifically claimed values must result. Mere possibilities -- and even probabilities -- are insufficient to support an inherency-based argument. The examples in the art being relied upon further demonstrate that the rejections are improper.

In view of the foregoing remarks, withdrawal of the rejections and allowance of this application are earnestly solicited. All claims are in condition for allowance.

Respectfully submitted,

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